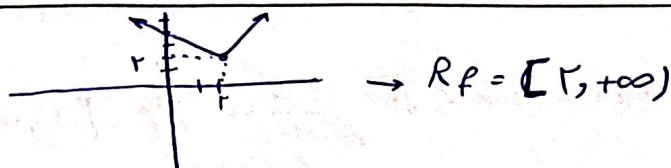
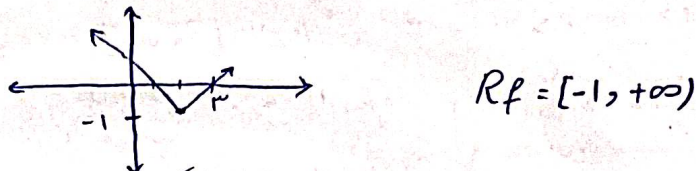


نام و نام خانوادگی پایه شیخ پاسخنامه تشریحی تکلیف شماره ۷ کلاس یازدهم ریاضی A

الف)
$$\begin{cases} 3x-2 & x \geq 2 \\ -x+2 & x < 2 \end{cases}$$



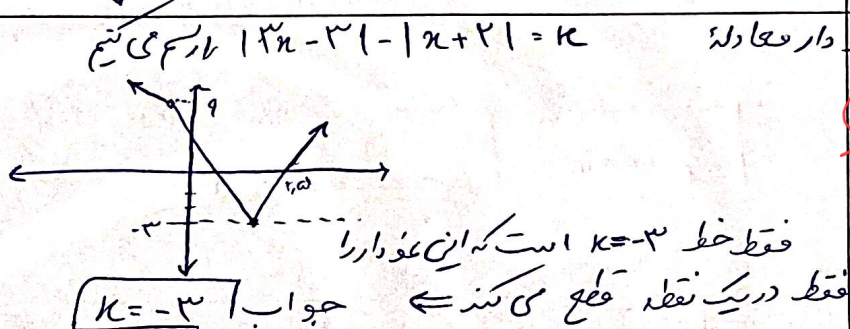
ب)
$$\begin{cases} 3x-2 & x \geq 2 \\ -x+2 & x < 2 \end{cases}$$



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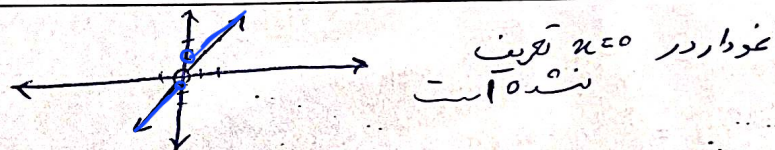
الف)
$$\begin{cases} 2x-5 & x > 1 \\ -5x+1 & -2 \leq x \leq 1 \\ -2x+5 & x < -2 \end{cases}$$



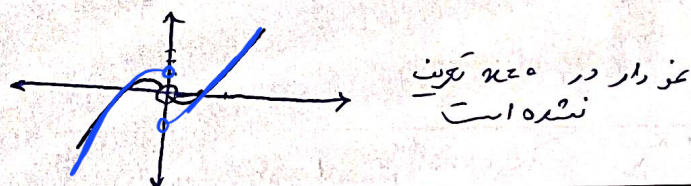
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الف)
$$\begin{cases} x+1 & x > 0 \\ x-1 & x \leq 0 \end{cases}$$



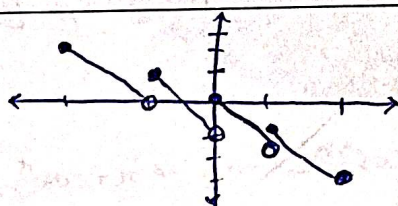
ب)
$$\begin{cases} x^2-1 & x > 0 \\ 1-x^2 & x \leq 0 \end{cases}$$



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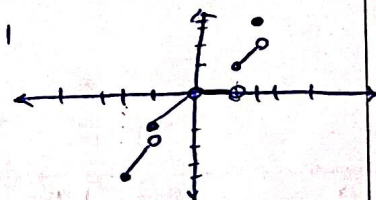
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الف)



$$\begin{aligned} -2 \leq x < 1 &\rightarrow -2-2x \\ -1 \leq x < 0 &\rightarrow -2x-1 \\ 0 \leq x < 1 &\rightarrow -2x \\ 1 \leq x < 2 &\rightarrow -2x+1 \end{aligned}$$

$x = 2 \rightarrow -2$



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ب)

$$\begin{aligned} -2 \leq x < -1 &\rightarrow +2x \\ -1 \leq x < 0 &\rightarrow x \\ 0 \leq x < 1 &\rightarrow 0 \\ x < -1 &\rightarrow x \end{aligned}$$

الف) $t - [t] \rightarrow R_f = [0, 1)$

ب) $\varepsilon x - \varepsilon[x] = \varepsilon(x - [x]) \Rightarrow R_f = [0, \varepsilon)$

ج) $\omega(\frac{x}{\omega} - [\frac{x}{\omega}]) \Rightarrow R_f = [0, \omega)$

د) $[t] - t \rightarrow R_f = [-1, 0]$

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الف) $-\sqrt{a^2+b^2} \leq a \sin x + b \cos x \leq \sqrt{a^2+b^2} \Rightarrow -\sqrt{13} \leq 2 \sin x + 3 \cos x \leq \sqrt{13} \Rightarrow R_f = [-\sqrt{13}, \sqrt{13}]$
 ب) $-\sqrt{2\omega} \leq \varepsilon \sin x - 3 \cos x \leq \sqrt{2\omega} \Rightarrow R_f = [-\omega, \omega]$

ج) $2\sqrt{29} \leq 2 \sin x + \omega \cos x \leq \sqrt{29}$ ^{برکت! اضافی} $R_f = [-4, \omega] \rightarrow$ ^{نکات}

د) $-\sqrt{\omega} \leq 2 \sin x + \cos x \leq \sqrt{\omega} \Rightarrow R_f = [0, \sqrt{\omega}]$

الف) $\begin{cases} -\frac{\pi}{\varepsilon} \rightarrow -b/ka \\ \frac{\pi}{\varepsilon} \rightarrow \max \end{cases} \left\{ \begin{array}{l} \sin x = 1 \rightarrow y = 6 \\ \sin x = -1 \rightarrow y = 0 \rightarrow \min \end{array} \right. \Rightarrow R_f = [0, \frac{\pi}{\varepsilon}]$

ب) $\begin{cases} -\frac{\pi}{\varepsilon} \rightarrow -b/ka \\ \frac{\pi}{\varepsilon} \rightarrow \min \end{cases} \left\{ \begin{array}{l} \sin x = 1 \rightarrow y \rightarrow \max \\ \sin x = -1 \rightarrow y = 1 \end{array} \right. \Rightarrow R_f = [\frac{\pi}{\varepsilon}, \pi]$

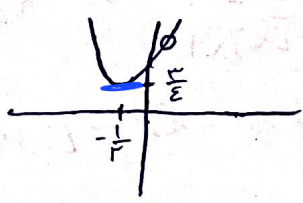
الف) $\sin^2 x + \varepsilon(1 - \sin^2 x) = -\varepsilon \sin^2 x + \varepsilon \rightarrow 0 \leq \sin^2 x \leq 1 \rightarrow 1 \leq -\varepsilon \sin^2 x + \varepsilon \leq \varepsilon$
 $R_f = [1, \varepsilon]$

ب) $\frac{\varepsilon \cos x}{\frac{1}{\sin x}} = \varepsilon \sin x \cos x = \sin^2 x \rightarrow -1 \leq \sin^2 x \leq 1 \rightarrow R_f = [-1, 1]$

الف) $2^{1-k} \leq \sin^k x + \cos^k x \leq 1 \Rightarrow \frac{1}{\varepsilon} \leq \sin^k x + \cos^k x \leq 1 \rightarrow R_f = [\frac{1}{\varepsilon}, 1]$

ب) $2^{1-\varepsilon} \leq \sin^1 x + \cos^1 x \leq 1 \Rightarrow \frac{1}{\varepsilon} \leq \sin^1 x + \cos^1 x \leq 1 \rightarrow [\sin^1 x + \cos^1 x] = \int_1^0$
 $R_f = \{0, 1\}$

الف) $y = \frac{(x+\varepsilon)(x-1)}{x+\varepsilon} \rightarrow x-1 \rightarrow \frac{y+1}{2} = x$ ^{چون باشد}
 $2(\varepsilon)-1 = y$ تعریف نمی شود $R_f = \{R - \{y\}\}$
 $R = \{R - \{y\}\}$

ب) $\frac{(x-1)(x^2+x+1)}{x-1} \rightarrow x^2+x+1 = y$ 
 $\begin{cases} -\frac{1}{\varepsilon} \\ \frac{\pi}{\varepsilon} \end{cases} \rightarrow R_f = \mathbb{R}$
 $R_f = [\frac{\pi}{\varepsilon}, +\infty)$